

INLS 777: Perspectives on People, Information, and Technology Fall 2022

Basic information

Date and time: Mondays and Wednesdays 11:15 to 12:30 p.m.

Location: Manning 307

Instructor information

Instructor: Melanie Feinberg (she, her, hers)

E-mail: mfeinber@unc.edu

Office: Manning 024 (on the garden level. aka basement)

Student hours: Mondays, 3-4 p.m. in my office, or by appointment via Zoom

Introduction

This course, required of all SILS master's students, attempts to grapple with the conundrum that constitutes "information science": namely, what the $\$@\#2!*$ is it, and what professional activities and scholarly disciplines does it encompass?

To engage with this dilemma, this course will explore different conceptions of information, technology, and people—the putative focus of "our field"—as articulated through both historical and current scholarship. Our focus will be relentlessly comparative: we will seek to understand, for instance, how certain ideas and perspectives appear across academic and professional contexts and, equally, how ideas and perspectives from the past prefigure those of the present. In particular, we will seek to understand how concepts put forth in relation to one configuration of information, technology, and people might speak to other, very different configurations. In making these comparisons, we will seek to identify shifts and changes, as well as what remains stable.

Concurrently, as we engage with these diverse scholarly texts, you will consider how various instantiations and arrangements of information, technology, and people might figure into your own professional goals.

Learning objectives

By the end of this course, you will be able to

- Appreciate the diverse range of disciplines, professions, and other orientations by which people have attempted to make sense of information, technology, and people.
- Contextualize, critique, and compare disciplinary, professional, cultural, and other perspectives with which one might identify and interpret relations between information, technology, and people.
- Trace different ways of understanding current information problems through the lens of different perspectives.
- Examine how your own interests and goals intersect, align, and conflict with different disciplinary, professional, cultural, and other perspectives.
- Articulate your own emerging professional identity.

Note that all sections of INLS 777 have similar learning objectives. Nonetheless, each instructor is taking a different approach to accomplish these objectives. Content will vary significantly across the sections, so don't be surprised if your colleagues do not have the same readings and assignments.

Course structure

This has been designed as an in-person course, meeting twice a week.

Our time together will focus on discussion, games, and other forms of interaction. You will be expected to have read the assigned materials before class and be prepared to talk about them. When possible, recorded lectures will be made available with the readings, to help prepare for class (rather than delivered in class).

The amount of reading for this class is relatively light (there is an average of 53 pages per week for the semester, with the greatest number of pages per week being 89 and the least 23—yes, I counted!). But the reading may seem tough at first. It will often employ certain technical terminology, for instance—and the technology will vary from reading to reading (sometimes it will be “old” technology, like “indexing,” and sometimes it will be “new” technology, like NFTs). But we will learn to read *beyond* these immediate contexts, and so to surface the big ideas from the jargon-y gunk in which they are encrusted. I hope that you will consider this an exciting prospect! It is, for sure, an invaluable professional skill.

The Semester Calendar (below) provides an overview of each week.

Technology

We will use the Canvas learning management system, rather than Sakai.

Everything in this syllabus will appear in its own module in Canvas. Likewise, each week’s readings and other materials will be available via Canvas modules.

Detailed instructions, requirements, and success criteria for all project work will appear in the Assignments area of Canvas, and this is where you will submit assignments as well.

Requirements, grading, and assessment

To pass the course, you must complete all assigned work to a minimum standard of proficiency, including:

- A four-part semester project.
- Participation requirements.

This class will use a P/F scale for semester grades. (There will be no H or L grades.)

Assigned work will receive written feedback aligned with each project’s documented success criteria. There will be no scores or grades.

Should any assignment that you submit fail to fulfill the success criteria to a minimum standard, you will be invited to resubmit the assignment. (Project and participation overviews appear below; *complete* instructions for all assigned work will be provided in Canvas.)

Late work

Because assignments are not given scores or grades, there are no penalties for late work. Should you need extra time to complete an assignment, simply send me an e-mail and propose a new due date. However, late work will receive fewer comments than work submitted on time. Excessively late work may receive no comments at all.

Due dates

Semester project

Project #1: Deconstructing your dream job

Project #2: Deconstructing your alternate universe dream job

Project #3: Finding professional inspiration from scholarly work

Project #4: Developing a distinctive identity for “our field” and “our school”

Due date

September 27

October 26

November 21

December 9

Assigned work should be submitted via the Assignments area of Canvas. Requirements, deliverables, and success criteria are fully documented there.

Participation

We're all in this together! In a course that emphasizes student interaction, it's important that we all find ways to contribute to our mutual learning and well-being. Accordingly, to pass the class, you must *acquire at least six* collegiality points *throughout the semester*.¹

Some ways to obtain collegiality points include:

- *Consistently* doing the assigned reading and being prepared for class discussion.
- *Generally* fulfilling the discussion success criteria (the criteria are listed below).
- Facilitating a small-group discussion: getting the conversation started, keeping the group on task, ensuring that everyone has a chance to speak, synthesizing ideas, and so on.
- Serving as the “devil’s advocate” in a small-group discussion by articulating opinions or objections that you do not personally share, but that extend the conversation in interesting ways. (This involves acting as the persistent devil’s advocate for an entire class, rather than just making a single remark.)
- Acting as the reporter for a small-group discussion, presenting what the group talked about to the class as a whole.
- Posting resources on our Canvas discussion board to help other students with their Dream Job and Alternate Universe Dream Job projects.
- Writing up thoughts about a course reading, lecture, discussion, or other activity as a Canvas discussion post.
- Reflecting on a recent news item or everyday experience that expands upon topics germane to the class as a Canvas discussion post.
- Sharing your knowledge with others: for example, helping to explain a reading, discussion topic, or something else from class to a colleague.
- Soliciting knowledge from others: for example, asking a fellow student (or me) for help when you don’t understand something.

Have an idea for some other way to obtain collegiality points? Great! We can continue adding to this list throughout the semester.

I will not keep track of your collegiality points; you will. At the end of the semester, you will submit a report that lists what you’ve done. This will not be onerous if you keep track throughout the semester.

Also note that, although I encourage you to perform these activities whenever you can, you only need to tell me about *six* of them. So your report can just tell me your *six favorite* collegiality items (or the *first six*), and not all 45 things that you did. In other words, if you want, you can get this report completed early in the semester and be done with it (as long as you don’t have more than two unexcused absences, as explained below).

¹ The idea for collegiality points is liberally adapted from Max Liboiron via Megan Winget.

Attendance

In a class that emphasizes student interaction, being absent affects the learning experience of others. Therefore, attendance is a required component of participation.

Everyone has two unexcused absences for the semester. An unexcused absence is when you are away from class for any reason.

If you have more than two unexcused absences in the semester, you must obtain one extra collegiality point for each unexcused absence. (For instance, if you have four unexcused absences for the semester, you will need eight collegiality points, rather than six.)

If you have a good reason to miss class, you can request an excused absence. You don't need to obtain an extra collegiality point for an excused absence.

Acceptable reasons for excused absences include:

- Ill health (physical or mental).
- Family emergencies (your child is sick, your partner is in the hospital).
- Accidents and unanticipated disasters (your apartment floods, your car is stolen, etc).
- Religious holidays.

To obtain an excused absence, send me an e-mail with your reason for being absent. Do not go into detail about your personal circumstances, just tell me the basic reason (e.g., "I'm not feeling well today," "It is Yom Kippur" etc.).

As a rule of thumb, if it would seem wrong for me to cancel class for that reason, it's probably not an acceptable excuse. For instance, studying for an exam in another class or attending a work meeting are not likely to be acceptable reasons to miss class.

As with the collegiality points, I won't keep track of your absences; you will. But misrepresenting your unexcused absences would be a violation of the honor code, and honor code violations are quite serious (see the course policies below).

Discussion success criteria

If you consistently achieve the following throughout the semester, you can award yourself one collegiality point.

You contribute actively to discussions by:

- Initiating conversations by asking questions of others.
- Volunteering your thoughts, feelings, impressions, and examples.
- Where appropriate, supporting your opinions and claims with evidence.
- Speaking up when you are confused or uncertain. (For instance, it's absolutely fantastic to begin a conversation by saying that you aren't quite sure Patrick Wilson means by "the best textual means to an end.")
- Retaining focus on matters germane to the course.
- Maintaining confidence that your contributions are valuable, no matter your background or level of previous knowledge or expertise.

You listen carefully and respond thoughtfully by:

- Maintaining respect and compassion for your classmates.

- Demonstrating that you value others' contributions. (For instance, use verbal and nonverbal cues to show that you're paying attention to your classmates. When someone makes a good point, say so.)
- Attempting to understand unfamiliar perspectives rather than dismissing them (for instance, by asking questions or requesting explanations).
- Disagreeing constructively (for instance, by volunteering a counter-example to consider or referring everyone to the text of a reading).
- Attending to the flow of a conversation (for instance, by changing the topic if interest is flagging, or *not* changing the topic if everyone is enthusiastic about it).

You monitor group dynamics, and adopt the Step Up/Step Back principle:

- *Step back* if you've been talking more than your share.
- *Step up* if you haven't been contributing as much.

Semester project: developing your own professional identity

Throughout the semester, you'll be complementing our reading and discussion with a personal exploration of professional identity.

This project has four parts.

1. Deconstructing your dream job.
2. Deconstructing your alternate universe dream job.
3. Finding professional inspiration from scholarly work.
4. Developing and defending a distinctive identity for "our field" and "our school."

An overview of each component is below.

Complete instructions for each component, including deliverables and criteria for success, will be available in the Assignments area of Canvas.

Project 1: Deconstructing your dream job

If you could have any job in the universe when you graduate from SILS, what would it be?

In this project, you will:

- Describe your dream job—its title, responsibilities, required skills, work environment, likely salary, location, potential career path, and so on.
- Reflect on the aspects of your dream job that are most important for you.
- Associate your dream job with one or more professional communities (perhaps with people who perform similar functions, or perhaps with people who work in similar environments, or perhaps with people who share certain professional values or are pursuing certain social or political goals).
- Reduce your dream job to its core characteristics by, for instance, eliminating references to current technologies (which will change), to specific institutional norms, to particular audiences or clients, or other potentially dynamic elements.
- Imagine your dream job in 2047. What about your dream job might have changed in 25 years? What might you need to do to navigate those changes?
- Identify several "alternate universe" dream jobs that share core characteristics with your dream job but differ in other ways (e.g., they make use of different technologies, occur in different work environments, serve a different audience, are oriented towards different social goals).

This project will require you to do some research outside of the assigned readings, such as:

- Investigating and interrogating position announcements—current ones and older ones!
- Identifying relevant professional associations and inspecting any educational or career resources that they might provide.
- Talking with people who have similar jobs.

You can use the Discussions area in Canvas to share ideas and resources.

Project 2: Deconstructing an alternate universe dream job

In Project 1, you identified several “alternate universe” dream jobs that share core characteristics with your main dream job but differ in other areas. For instance, if your dream job was to design usable, accessible interfaces for mobile apps, you might have described one of its core characteristics as “facilitating information access for all people, regardless of their abilities.” Alternate universe dream jobs might include running a community computer center for older adults, or developing automated techniques to remove misinformation from a social media platform.

Select the alternate universe dream job that is *most different* from your main dream job, and:

- Describe your alternate universe dream job— its title, responsibilities, required skills, work environment, potential career path, and so on.
- Compare your alternate universe dream job to your main dream job. How would your life be different in the alternate universe? What would be great about that alternate life, and what might be not so great?
- After considering your alternate universe dream job, is there anything you would change about your main dream job?
- If you wanted to change career trajectories to live in the alternate universe, what would you need to do?

Project 3: Finding professional inspiration from scholarly work

A professional education is not training for an entry-level position in a particular domain; it’s intended to provide the conceptual apparatus to sustain and nurture an entire career, which may span diverse job functions, fields or industries, and working environments. Part of how we do that is by reading particular examples in light of their broader ideas and wider applicability. A proposal to solve a certain problem in a specific field with then-current technology might, for instance, provide insights relevant to a larger class of similar problems, across fields and technologies. Of course, this doesn’t mean that you need to agree with the approach being offered; understanding how an idea is unworkable or misguided can provide useful and enduring insights also.

In this project, you’ll select *two readings from this semester: one published before the year 2000 and one published after the year 2000*. You’ll write an essay of about 1500-2000 words describing what these readings illuminate for you as regards your envisioned career path (not just your first job out of school, but over your entire career). (You do *not* need to select readings that are paired together in the syllabus; indeed, I’d prefer it if you didn’t.) In selecting your readings and writing your essay, your challenge is to think broadly rather than narrowly. If you imagine a career as an archivist, for instance, resist the temptation to select articles that deal with archival concepts by default; instead, consider how readings that emphasize “sociotechnical infrastructure” or “information over time” might be interesting to contemplate, especially if you switch gears slightly and move into digital forensics or cybersecurity roles as your career proceeds.

Project 4: Developing and defending a distinctive identity for “our field” and “our school”

Sometimes you might hear people at SILS or elsewhere talking about “our field.” But “our field” has never had a cohesive or well-encapsulated identity, or even an agreed-upon name. And the situation has only become more confusing over time: where, in another era, the only academic department concerned

with “information, technology, and people” might have been called the “School of Library and Information Science” or the “School of Information Management and Systems” or the “iSchool,” today many departments take such an interest.

What is “our field” then? Is there, in short, any “there” there? And, given your perspective on that dilemma, what then should be the focus of “our school,” and how should we position ourselves to the world at large? In this final project, you’ll write an essay of about 1500-2000 words that bears upon such questions.

In thinking about these issues, it will be useful to think beyond yourself and your personal goals. Your dream job might be a public librarian or a data scientist, but that clearly doesn’t mean that “our field” and “our school” should focus solely on those job roles. What array of professional identities and scholarly concerns should “our field” incorporate?

Semester calendar

All academic disciplines are contested to a certain degree. But “information science” has been especially fractured, with little agreement about what should, or might, be included in it, and even (or especially) about a name for it. (“Information science”? “Library and information science?” “Information studies?” Bleh!) Moreover, there has never been agreement on what constitutes core or canonical literature, because there has never been a cohesive literature.

Accordingly, any syllabus for a class like this will necessarily be idiosyncratic, conditioned by my own perspective of what’s distinctively valuable about, er, “our field.” Furthermore, I have selected the texts that we will encounter this semester to be illustrative of various concepts and viewpoints, but not because I or anyone else necessarily agrees with them.

I’ll try to use the Canvas reading overviews help you understand why I’ve selected a text and what I envision us learning from it.

Date	Themes	Readings	Assignments
Monday, August 15	Introduction to the class	Syllabus	
Part 1: information			
Wednesday, August 17	Information: what is it?	Floridi, 2010 (pp19-51) Buckland, 1991 Agre, 1994 41 pages	
Monday, August 22	Conceptualizing information retrieval and its evaluation, part 1	Bush, 1945 Cleverdon, 1967 42 pages	
Wednesday, August 24	Conceptualizing information retrieval and its evaluation, part 2	Capra and Arguello, 2019 5 pages	
Monday, August 29	Purposes of information systems, Part 1	Wilson, 1968 (chapter 2) Soergel, 1997 23 pages	
Wednesday, August 31	Purposes of information systems, part 2	Hjørland, 2015 Shah and Bender, 2022 24 pages	
Monday, September 5	<i>No class: Labor Day holiday</i>		
Wednesday, September 7	Information systems and automation, part 1	Maron, 1961 Cooper, 1978 25 pages	
Monday, September 12	Information systems and automation, part 2	Burrell, 2016 Gillespie, 2020 14 pages	
Wednesday, September 14	Temporality in information systems, part 1	Fairthorne, 1974 9 pages	
Monday, September 19	Temporality in information systems, part 2	Bowker, 2005 (pp. 139-184) Rokem, Marwick, and Staneva, 2018 60 pages	

Date	Themes	Readings	Assignments
Wednesday, September 21	Design specifications for datasets	Bates, 1976 Gebru, et al, 2018 29 pages	
Monday, September 25	<i>No class: university wellness day</i>		
Wednesday, September 27	In-class activity: sharing and comparing your dream jobs		Project #1, Deconstructing your dream job due
Monday, October 3	Implementing data design specifications, part 1	Tinker, 1966 Furnas, Landauer, Gomez, and Dumais 1987 14 pages	
Wednesday, October 5	Implementing data design specifications, part 2	Muller, et al 2021 Geiger, et al, 2021 40 pages	
Monday, October 10	Reliability and authenticity of information, part 1	Duchein, 1983 Duranti, 1995 Lynch, 1997 28 pages	
Wednesday, October 12	Reliability and authenticity of information, part 2	Lemieux, 2019 Dash, 2021 28 pages	
Monday, October 17	Relationships between documents, part 1	Garfield, 1955 de Solla Price, 1965 Larson, 1996 Brin and Page, 1998 28 pages	
Wednesday, October 19	Relationships between documents, part 2	Starbird, 2017 10 pages	
Monday, October 24	Relationships between documents, part 3	Egan and Shera, 1952 DiResta, 2018 16 pages	
Part 2: People			
Wednesday, October 26	Serving users, part 1	Gould and Lewis, 1985 Woolgar, 1990 Baumer and Brubaker, 2017 60 pages	Project #2, Deconstructing your alternate universe dream job due
Monday, October 31	Serving users, part 2	Card, Moran, and Newell, 1980 Greenberg and Buxton, 2008 Light, Shklovski, and Powell, 2017 33 pages	
Wednesday, November 2	Design, part 1	Cross, 1982 Ehn and Kyng, 1987 48 pages	
Monday, November 7	Design, part 2	Clarke, 2018 Bray et al, 2022 30 pages	

Date	Themes	Readings	Assignments
Wednesday, November 9	Users in context, part 1	Chatman, 1996 Gibson and Martin, 2019 24 pages	
Monday, November 14	Users in context, part 2	Grudin, 1988 Star and Ruhleder, 1996 30 pages	
Wednesday, November 16	Users in context, part 3	Dourish, 2006 Currie, Paris, Paschetto, and Pierre, 2016 21 pages	
Part 3: professional ideologies			
Monday, November 21	Librarianship	Harris, 1973 Garrison, 1972 Jones, 2017 65 pages	Project #3, Finding professional inspiration from scholarly work due
Wednesday, November 22	<i>No class: Thanksgiving holiday</i>		
Monday, November 28	Information science and computer science	Bates, 2000 Ribes, Hoffman, Slota, and Bowker 2019 33 pages	
Wednesday, November 30	The future of “information professions”	Shaw, 2019	Collegiality points report due Project #4, Developing and defending a distinctive identity for “our field” and “our school” due on Friday, December 9, at noon (the date and time of the final exam, as per UNC policy)

Course policies

COVID-19 community standards

As specified by current UNC community standards, everyone at UNC is encouraged to be fully vaccinated and to receive any eligible boosters.

Mask use is encouraged but optional in university buildings.

Please do not come to class if you are sick. Any illness is always an excused absence. Although this class will not offer a remote option, class materials will be posted to Canvas so that you will have access to them, even if you are ill.

For additional information about UNC’s COVID protocols for the fall 2022 semester, see <https://carolinatogether.unc.edu/2022/07/29/fall-operations/>

Respectful class environment

Learning requires an atmosphere of respect, care, and empathy for each other. This does not mean that we can't disagree; understanding the nature of our disagreements can help us all grow. But disrespect for any person or their identity will not be tolerated.

Asking for help

Should you encounter barriers to your learning—whether it's something that I'm doing or not doing, or challenges in your personal circumstances—I am here to help. Please set up an appointment so that we can work together towards your success.

The work that we will be engaging with this semester is difficult, and most of you will be unfamiliar with some or all of it. It is normal to feel confused or lost sometimes.

Additionally, we are living in challenging times, and we are all grappling with chronic stress and anxiety. It is common and natural to feel overwhelmed. Asking for help is not a sign of weakness or failure.

No busy work

No one wants to do boring things for no reason, including me! From my perspective, everything that we do in this class has a purpose that requires thinking. If anything seems like busy work, I probably haven't articulated the purpose well. Be sure to ask for help, so that I can better explain what the task is supposed to achieve.

Instructor communication

For specific, concrete questions, e-mail is the most reliable means of contact for me. If you do not receive a response after a few days, please follow up. It is always helpful if your e-mail includes a targeted subject line that begins with "INLS 777."

For more complicated questions or help, come to student hours (no appointment necessary) or make an appointment to talk with me at a different time.

You are welcome to call me by my first name ("Melanie"). However, you may also use "Dr. Feinberg" or "Professor Feinberg" if that is more comfortable for you.

Student hours

During student hours, I am available to talk with students about anything, without an appointment.

You can use student hours to ask questions, seek help, consult about project work, obtain more information about course topics, or just say hello. You're not bothering me if you attend student hours! I've dedicated this time to talk with students.

During student hours, my office door will be open; simply come in! If I'm talking with someone else, make sure that I know you're there.

Inclusive learning and accessibility

I want everyone to do well in this class. If there are aspects of this course that prevent you from learning or exclude you, please let me know. We'll work together on strategies to meet your needs and satisfy the requirements of the course.

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Web site (ars.unc.edu) for details.

Mental health resources

All students have access to counseling and other resources through Counseling and Psychological Services (CAPS). CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to caps.unc.edu or visit their facilities on the third floor of the Campus Health Services building.

Basic needs

If you are navigating financial, health, or housing challenges that may have an impact on your ability to thrive at UNC, one resource is the Dean of Students, which also oversees the Dean's Emergency Fund: <https://dos.unc.edu/student-support/student-emergency-and-hardship-funds/>

If you are struggling with food insecurity and you are in the Chapel Hill area, you can get assistance through Carolina Cupboard, an on-campus food pantry: <http://carolinacupboard.web.unc.edu/>

Academic integrity

The UNC Honor Code states that:

It shall be the responsibility of every student enrolled at the University of North Carolina to support the principles of academic integrity and to refrain from all forms of academic dishonesty...

This includes prohibitions against the following:

- Plagiarism.
- Falsification, fabrication, or misrepresentation of data or citations.
- Unauthorized assistance or collaboration.
- Cheating.

All scholarship builds on previous work, and all scholarship is a form of collaboration, even when working independently. Incorporating the work of others, and collaborating with colleagues, is welcomed in academic work. However, the honor code clarifies that you must always acknowledge when you make use of the ideas, words, or assistance of others in your work. This is typically accomplished through practices of reference, quotation, and citation.

If you are not certain what constitutes proper procedures for acknowledging the work of others, please ask the instructor for assistance. It is your responsibility to ensure that the [honor code](#) is appropriately followed. (The [UNC Office of Student Conduct](#) provides a variety of honor code resources.)

The UNC Libraries has online tutorials on [citation practices](#) and [plagiarism](#) that you might find helpful.

Honor code violations can result in serious penalties, such as failing the course.

Full bibliography

Phil Agre. 1995. Institutional circuitry: thinking about the forms and uses of information. *Information Technology and Libraries* 14(4): 225-230.

Marcia Bates. 1976. Rigorous systematic bibliography. *RQ* 16(1).

- Marcia Bates. 2000. The invisible substrate of information science.
- Eric P. S. Baumer and Jed R. Brubaker. 2017. Post-userism. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17)*: 6291–6303.
- Geoffrey Bowker. 2005. *Memory practices in the sciences*. Cambridge, MA: MIT Press. (pp. 139-184)
- Kirsten E Bray, Christina Harrington, Andrea G Parker, N'Deye Diakhate, and Jennifer Roberts. 2022. Radical futures: supporting community-led design engagements through an Afrofuturist speculative design toolkit. In *CHI Conference on Human Factors in Computing Systems (CHI '22)*: Article 452.
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- Michael Buckland. 1991. Information as thing. *Journal of the American Society for Information Science* 42(5): 351-360.
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- Nigel Cross. 1982. Designerly ways of knowing. *Design Studies* 3(4): 221-227.
- Morgan Currie, Britt Paris, Irene Pasquetto, and Jennifer Pierre. 2016. The conundrum of police officer-involved homicides: Counter-data in Los Angeles County. *Big Data & Society*.
- Anil Dash. 2021. NFTs weren’t supposed to end like this. *The Atlantic* April 2, 2021. <https://www.theatlantic.com/ideas/archive/2021/04/nfts-werent-supposed-end-like/618488/>
- Renee DiResta. The complexity of simply searching for medical advice. *Wired* July 3, 2018. Available at: <https://www.wired.com/story/the-complexity-of-simply-searching-for-medical-advice/>

Paul Dourish. 2006. Implications for design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '06)*: 541–550.

Derek J. De Solla Price. 1965. Networks of scientific papers. *Science* 149(3683): 510-515.

Michel Duchein. 1983. Theoretical principles and practical problems of respect des fonds in archival science. *Archivaria* 16: 64-82.

Luciana Duranti. 1995. Reliability and authenticity: the concepts and their applications. *Archivaria* 39: 5-10.

Margaret Egan and Jesse Shera. 1952. Foundations of a theory of bibliography. *Library Quarterly* 22(2): 125-137.

Pelle Ehn and Morten Kyng. 1987. The collective resource approach to systems design. In *Computers and Democracy - A Scandinavian Challenge*. Gro Bjercknes, Pelle Ehn, and Morten Kyng (Eds.), Gower Publishing Ltd, 17–58.

Robert Fairthorne. 1974. Temporal structure in bibliographic classification. In *Conceptual Basis of the Classification of Knowledge: Proceedings of the Ottawa Conference on the Conceptual Basis of the Classification of Knowledge* (pp. 404–415). Pullach, Germany: Verlag Dokumentation.

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Eugene Garfield. Citation indexes for science. *Science* 122(3159):108-11.

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